

SAPOZHNIKOV, D.I.; EYDEL'MAN, Z.M.; BAZHANOVA, N.V.; MASLOVA, T.G.; POPOVA, O.F.;
SHIRYAYEVA, G.A.

Characteristics of the light reaction of xanthophyll conversion under
conditions of anaerobiosis. Bot.zhur. 49 no.10:1463-1465 0 '64.
(MIRA 18:1)

1. Botanicheskiy institut imeni V.L.Komarova AN SSSR, Leningrad.

ACCESSION NR: AP4012981

S/0020/64/154/004/0974/0977

AUTHORS: Sapozhnikov, D.I.; Alkhazov, D.G.; Rydel'man, Z.M.;
Bazhanova, N.V.; Lemberg, I. Kh.; Maslova, T.G.; Girshin,
A.B.; Popova, I.A.; Saakov, V.S.; Popova, O.F.;

TITLE: Participation of xanthophylls in oxygen transport during
photosynthesis

SOURCE: AN SSSR. Doklady*, v. 154, no. 4, 1964, 974-977

TOPIC TAGS: xanthophyll, oxygen transport, photosynthesis, labeled
oxygen green algae, chlorella species, O sup 18 determination,
lutein, carotene, chlorophyll, chromatography, F sup 18

ABSTRACT: Labeled oxygen was used in a suspension of unicellular
green algae species chlorella pyrenoidosa to study transformation
reactions of violaxanthin and lutein. In addition, other pigment
fractions were investigated under the influence of light. The
H₂O¹⁸ suspension, enriched with O¹⁸ (68%), was exposed for 30 min-

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ACCESSION NR: AP4012981

utes to the light source. Chromatographic determinations of 4 pigment zones, carotene with colorless lipids, chlorophylls (masking neoxanthin), lutein and violaxanthin were made. These were then eluted and concentrated, followed by transformation of O^{16} into the radioactive isotope P^{18} , using cyclotron and 4 Mev proton irradiation of a film of each pigment fraction on a tantalum disk. The (figured) activities of the various pigments were calculated per 100 μ g of substance and a 46 microcoulomb charge carried by the protons during 4 hours following irradiation, excluding the cosmic-ray background. Standard error was at most 5%. All fractions with the exception of lutein were strongly labeled following exposure to the light, and the latter indicated the absence of O participation in the OH groups at the lutein rings. It was concluded that an exchange occurred between the epoxy oxygen of violaxanthin and the O^{18} in the water, thus confirming participation of the xanthophylls in oxygen transport during photosynthesis. O^{18} also enters the lipid fractions of carotene and the composition of the substances accompanying the chlorophylls in the chromatogram. Orig. art. has:

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ACCESSION NR: AP4012981

3 figures.

ASSOCIATION: Botanicheskiy institut im. V.I. Komarova Akademii
nauk SSSR (Botanical Institute, Academy of Sciences SSSR)

SUBMITTED: 28Mar63

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 013

OTHER: 003

Card 3/3

SARAZENINOV, O.I.; SAKHAROVA, O.V.

Role of manganese in producing light reaction of the transformation
of xanthophylls. Dokl. AN SSSR 157 no.6:1480-1482 Ag '64.
(MIRA 17:9)

1. Botanicheskii institut im. V.L. Komarova AN SSSR. Predstavleno
akademikom A.N. Terebinym.

NASYROV, Yu.S., otv. red.; SAPOZHNIKOV, D.I., red.; PROKOF'YEV, A.A., red.; ZALENSKIY, O.V., red.; MAKUMOV, A.N., red.; KARIMOV, Kh.Kh., red.; LOGINOV, M.A., red.; GILLER, Yu.Ye., red.; USMANOV, P.D., red.; KAS'YANENKO, A.G., red.; RAKHMANINA, K.F., red.

[Contribution of plant physiology to agriculture; problems of photosynthesis and metabolism] Fiziologiya rastenii - sel'skomu khoziaistvu; voprosy fotosinteza i obmena veshchestv. Dushanbe, Izd-vo AN Tadzhikskoi SSR, 1965. 131 p.

(MIRA 18:4)

1. Akademiya nauk Tadzhikskoy SSR, Dushanbe. Institut fiziologii i biofiziki rastenii.

SAPOZHNIKOV, D.I.; MASLOVA, T.G.; BAZHANOVA, N.V.; POPOVA, O.F.

Kinetics of the inclusion of O^{18} from heavy oxygen water into the violaxanthin molecule. Biofizika 10 no.2:349-351 '65. (MIRA 18:7)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

SAPCZHNIKOV, D.I.; MASLOVA, T.G.; BAZHANOVA, N.V.

Metabolism of xanthophylls in the absence of carbon dioxide.
Biokhimiia 30 no.5:1055-1058 S-O '65. (MIRA 18:10)

1. Laboratoriya fotosinteza Botanicheskogo instituta imeni V.L.
Komarova AN SSSR, Leningrad.

L 07862-67 EWT(d)/EWP(c)/EWP(v)/EWP(k)/EWP(l) IJP(c)
 ACC NR: AP6011252 (N) SOURCE CODE: UR/0413/66/000/006/0094/0094
 AUTHORS: Levykin, F. V.; Zaikin, I. M.; Sapozhnikov, E. Ya.; Chernyayev, V. Ye.
 ORG: none
 TITLE: A method for ultrasonic inspection of bent bars. Class 42, No. 179978
 SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 94
 TOPIC TAGS: ultrasound, ultrasonic emitter, ultrasonic equipment, ultrasonic flaw detector, ultrasonic inspection, ultrasonic sensor, ultrasonic wave
 ABSTRACT: This Author Certificate presents a method for ultrasonic inspection of bent bars, based on the utilization of surficial ultrasonic waves. To increase the sensitivity of the recording apparatus used in detection of cracks, the angle through which the emitters are turned is so chosen that the ultrasonic rays produced by the emitters and moving along the cylindrical surface of the neck of the bent bar intersect at the center of bend. To decrease the influence of errors on the accuracy of inspection and to maintain a constant angle of intersection of the ultrasonic rays, the emitters, in the course of inspection, progress along the outer surface of the neck opposite to the surface being checked on the inspected rod. To determine the dimensions of the detected crack, the transverse size of the cracks is measured with a feeler operating on the principle of reflex. The determination of the longitudinal dimensions is attained with an echo-measuring feeler.
 SUB CODE: 13/ SUBM DATE: 05Feb63 UDC: 658.562.6 621.824.3 620.179.16
 Card 1/1 bs

DROBYSHEV, A.; BONDAREV, M.; ~~SAPOZHNIKOV, F.~~^{V.} ROGOVIN, N.; ACHKASOV, D.;
VSELOV, N.; GROBOKOPATEL', S.; RABINSKIY, M.; PESTOVSKIY, A.

Semen Iosifovich Kazarnovskii; obituary A. Drobyshev and others.
Elek.sta. 27 no.5:63 My '56. (MLRA 9:8)
(Kazarnovskii, Semen Iosifovich, d.1956)

SAPOZHNIKOV, F.V., inzh.

Some problems of economics in building for the power industry.
Elek.sta.28 no.11:87-90 N '57. (MIRA 10:11)
(Electric power plants)

~~SAROZHNIKOV, P. V.~~ inzh.

Mass production of thermal electric power plants as the most important action for reducing building time and cost. Elek. sta. 29 no.7:
8-12 JI '58. (MIRA 11:10)

(Electric power plants)

ZASYAD'KO, A.F.; KUCHERENKO, V.A.; PAVLENKO, A.S.; GRISHMANOV, I.A.;
PROLOV, V.S.; SHASHKOV, Z.A.; YEFREMOV, M.T.; SMIRNOV, M.S.;
CHIZHOV, D.G.; NOVIKOV, I.T.; NOSOV, R.P.; ASKOCHENSKIY, A.N.;
NEKRASOV, A.M.; LAVHENEKO, K.D.; TARASOV, N.Ya.; GABDANK, K.A.;
LEVIN, I.A.; GINZBURG, S.Z.; ALEKSANDROV, A.P.; KOMZIN, I.V.;
OZEROV, I.N.; SOSNIN, L.A.; BELYANOV, A.A.; NAYMUSHIN, I.I.;
INYUSHIN, M.V.; ACHKASOV, D.I.; RUSSO, G.A.; DROBYSHEV, A.I.;
PLATONOV, N.A.; ZHIMERIN, D.G.; PROMYSLOV, V.F.; KRISTOV, V.S.;
SAPOZHNIKOV, F.V.; KASATKIN, M.V.; ALEKSANDROV, M.Ya.; KOTILEVSKIY,
D.G.

Fedor Georgievich Loginov; obituary. Elek.sta. 29 no.8:1-2
Ag '58. (MIRA 11:11)

(Loginov, Fedor Georgievich, 1900-1958)

SAPOZHNIKOV, F.V., inzh.

Problems of thermal power plant construction organizations
pertaining to shortening of assigned terms and improvement
of technology in the building of thermal electric power stations.
Energ. stroi. no.1:3-7 '59. (MIRA 13:2)

1. Glavenergostroyontazh.
(Power engineering) (Electric power plants)

NOVIKOV, I.T.; PAVLENKO, A.S.; SMIRNOV, M.S.; CHIZHOV, D.G.; LAVRENEENKO,
K.D.; NEKRASOV, A.M.; NOSOV, R.P.; TARASOV, N.Ya.; ZHIMERIN, D.G.
UGORETS, I.I.; DMITRIYEV, I.I.; DROBYSHEV, A.I.; YERMAKOV, V.S.;
SAPOZHNIKOV, F.V.; BOROVY, A.A.; BANNIK, V.P.; DASKOVSKIY, Ya.M.;
ROGOVIN, N.A.; PETROV, A.N.; MEL'NIKOV, B.V.; LATYSH, D.I.;
KONIN, F.P.; DYDYKIN, P.Ye.; BONDAREV, I.I.; GUMENYUK, D.L.;
POHEGAYLO, K.M.

Ol'ga Sergeevna Kalashnikova; obituary. Elek.sta. 30 no.2:95
F '59. (MIRA '12:3)

(Kalashnikova, Ol'ga Sergeevna, 1914)

SAPOZHNIKOV, F.V., inzh.

Building thermoelectric power plants using precast concrete
construction elements. From stroi. 37 no.5:16-21 My '59.
(MIRA 12:7)

(Electric power plants) (Precast concrete construction)

SAPOZHNIKOV, Fedor Vasil'yevich; LATYSH, D.I., inzh., red.; MIKHAYLENKO,
Yu.Ya., red.; LEBEDEVA, L.V., tekhn. red.

[Construction of thermal electric plants and a survey of some design details of public buildings and apartment houses in France] Stroitel'stvo teplovykh elektrostantsii i obzor nekotorykh konstruktivnykh reshenii obshchestvennykh i zhilykh zdaniy vo Frantsii. Moskva, Orgenergo-stroi, 1960. 67 p. (MIRA 14:11)

(France---Electric power plants)

(France---Apartment houses)

SAPOZHNIKOV, F.

Thermal Electric Power Plant built with prefabricated elements.
Tekh. mol. 28 no. 3:2-3 '60. (MIRA 14:4)

1. Nachal'nik Glavenergoprojekta.
(Electric Power Plants--Design and construction)

SAPOZHNIKOV, F.

Precast reinforced concrete elements for building thermal electric stations. Na stroi.Ros. no.2:24-26 F '61.

(MIRA 14:6)

1. Nachal'nik Glavenergoprojekta Ministerstva stroitel'stva elektrostantsiy

(Electric power plants)

(Precast concrete construction)

(Hd, Main Admin for Planning Electric Power Stations,
Ministry for Construction of Electric Power Stations)

SAPOZHNIKOV, F.V., inzh:

New layouts for the production of components of thermal electric
power plants. Elek.sta. 32 no.6:2-7 Je '61. (MIRA 14:8)
(Electric power plants)

KLISENKO, Yu.F.; PIDZHIYANTS, S.A.; RUTKOVSKIY, B.I.; RYBAL'SKIY, V.I.;
SAPOZHNIKOV, F.V.; SLIPCHENKO, P.S.; SHIMKEVICH, K.A.

Flow-line construction of large thermal electric plants. From.
stroil. 39 no.10:8-13 0 '61. (MIRA 14:10)

1. Yuzhenergostroy (for Klisenko).
 2. Akademiya stroitel'stva i arkhitektury USSR (for Pidzhiyants, Rutkovskiy, Rybal'skiy, Slipchenko).
 3. Glavenergoprojekt (for Sapozhnikov).
 4. Orgenergostroy (for Shimkevich).
- (Building) (Electric power plants)

BERENSHTEYN, S.A.; VAYSLEYB, V.P.; VARENIK, I.F.; DOBRYNCHENKO, M.V.;
YEGOROV, B.P.; KLISENKO, Yu.F.; MOGILEVSKIY, I.I. [deceased];
PEREYASLAVTSEV, N.A.; PILIPENKO, V.I.; SAPOZHNIKOV, F.V., inzh.;
SHEPELEV, V.M.; SHULEVICH, M.L.; YARMOLINSKIY, I.M.; SHAGALOV,
Ye.S., red.; KORIKOVSKIY, I.K., red.; LARIONOV, G.Ye., tekhn. red.

[Construction of the V.I. Lenin State Regional Electric Power
Plant in Simferopol] Opyt stroitel'stva Simferopol'skoi GRES
im. V.I. Lenina [By] S.A. Berenshtein i dr. Moskva, Gosenergoizdat,
1962. 151 p. (MIRA 15:6)

(Simferopol--Electric power plants)

ABASHIDZE, Andrey Ivanovich; BERENSHTEYN, Semen Abramovich;
SAPOZHNIKOV, Fedor Vasil'yevich; SHTAYERMAN, Yu.Ya.,
prof., red.; LARIONOV, G.Ye., tekhn. red.

[Foundations for steam turbines (turbogenerators)] Fundamenty parovykh turbin (turbogeneratorov). Moskva, Gosenergoizdat, 1963. 334 p. (MIRA 17:3)

SAPOZHNIKOV, F.V., inzh.

The decrease in labor expenditures is a problem of utmost importance in the construction of thermal electric power plants. Energ. stroi. no.38:3-8 '64. (MIRA 17:10)

1. Zamestitel' predsedatelya Gosudarstvennogo proizvodstvennogo komiteta po energetike i elektrifikatsii.

AVTONOMOV, B.V.; BONDAREV, I.I.; BORISENKO, P.I.; BURLAKA, S.A.; VESELOV,
N.D.; ZUBANOV, K.V.; KLIMENKO, G.A.; KOTILEVSKIY, D.G.; KUDISH,
A.D.; LAVRENEENKO, K.D.; MALYUTIN, N.P.; MARINOV, A.M.;
MOLOKANOV, S.I.; PLOGATYREV, A.A.; POBEGAYLO, K.M.; POGAYEVSKIY,
V.L.; SAVINYKH, A.I.; SAPOZHNIKOV, F.V.; SERDYUKOV, N.P.;
FINOGENOV, Ya.I.; CHALDRANYAN, V.P.; CHULKOV, Ye.I.; SHANIN, V.P.;
SHISHOV, V.V.

Ivan Konstantinovich Khivrenko; obituary. Elek.sta. 34 no.2:96
F '63. (MIRA 16:4)

(Khivrenko, Ivan Konstantinovich, 1899-1962)

ZAYDEL', Viktor Arnol'dovich, dots.; SAPOZHNIKOV, Fedor Vasil'yevich, inzh.; FIMOGENOV, Yakov Ivanovich, inzh.; BELINSKIY, S.Ya., kand. tekhn.nauk, dots., red.

[Principles of the construction and installation of thermal electric-power plants; general problems of organization and mechanization] Osnovy stroitel'stva i montazha teplovykh elektrostantsii; obshchie voprosy organizatsii i mekhanizatsii. Moskva, Energiia, 1964. 255 p. (MIRA 17:10)

NEPOROZHNIY, P.S.; FINOGENOV, Ya.I.; LAVRENIENKO, K.D.; VESELOV, N.D.;
SAVINYKH, A.I.; SAPOZHNIKOV, F.V.; SERDYUKOV, N.P.; CHUPRAKOV, N.M.;
NEKRASOV, A.M.; BOROVOY, A.A.; KOTILEVSKIY, D.G.; STEKLOV, V.Yu.;
KULEBAKIN, V.S.; BOGDANOV, N.P.

Petr Ivanovich Voevodin, d. 1964; obituary. Elektrichestvo no.3:
90-91 Mr '65. (MIRA 18:6)

NEPOROZHNIY, P.S.; SAVINYKH, A.P.; SAPOZHNIKOV, F.V.; SERDYUKOV, N.P.;
ACHKASOV, D.I.; BURGSDORF, V.V.; NEMOV, N.P.; SYROMYATNIKOV, I.A.;
KNYAZEVSIIY, B.A.; ROKOTYAN, S.S.; STEKLOV, V.Yu.; FEDOSEYEV, A.M.;
GRUDINSKIY, P.S.; KHOMYAKOV, M.V.; VENIKOV, V.A.; CHERNOBROVOV, N.V.;
MEL'NIKOV, N.A.; BERSHADSKIY, I.S.

Aleksandr Dmitriyevich Romanov, 1905; on his 60th birthday. Elek.
sta. 36 no.11:94 N '65. (MIRA 18:10)

L 10997-66

ACC NR: AP6001978

SOURCE CODE: UR/0105/65/000/003/0090/0091

AUTHOR: Neporozhniy, P. S.; Finogenov, Ya. I.; Lavrenenko, K. D.; Veselov, N. D.; Savinykh, A. I.; Sapozhnikov, F. V.; Serdyukov, N. P.; Chuprakov, N. M.; Nekrasov, A. M.; Borovoy, A. A.; Kotilevskiy, D. G.; Steklov, V. Yu.; Kulebakin, V. S.; Bogdanov, N. P.

ORG: none

TITLE: Petr Ivanovich Voyevodin

SOURCE: Elektrichestvo, no. 3, 1965, 90-91

TOPIC TAGS: electric engineering personnel, political personnel

ABSTRACT: P. I. VOYEVODIN died on 25 November 1964; one of the oldest bolshevik-Leninists, he was a member of the CPSU already in 1899. He fought in the early battles of the revolution, was imprisoned and sent to Siberia in 1905. After the October Revolution he became an economic adviser to Lenin on matters pertaining to Siberia and the entire Soviet Union as well. He was active in planning and organizing GOELRO. In 1921 he was assigned to set up the new Russian cinema industry, later he turned to the problems of electrification: spreading Lenin's ideas, publishing books and periodicals on the subject. He was the first Soviet editor of "Elektrichestvo" and then the editor of "Elektrifikatsiya." He partici-

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UDC: 621.311

L 10997-66

ACC NR: AP6001978

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parted in the International Power Conferences in Berlin 1930 and in Belgrade 1956. His entire life was devoted to faithful service in the interests of the Communist Party; in 1964 he was duly awarded the Order of Lenin and was named a Hero of Socialist Labor. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 05, 09 / SUBM DATE: none

OC
Card 2/2

L 29166-66

ACC NR: AP6018890

SOURCE CODE: UR/0104/65/000/011/0094/0094

AUTHOR: Naporozhniy, P. S.; Savinykh, A. P.; Sapozhnikov, F. V.; Serdyukov, N. P.; Achkasov, D. I.; Burgdorf, V. V.; Nemov, N. P.; Syromyatnikov, I. A.; Knyazevskiy, B. A.; Rokotyan, S. S.; Steklov, V. Yu.; Fedoseyev, A. M.; Grudinskiy, P. S.; Khomyakov, M. V.; Venikov, V. A.; Chernobrovov, N. V.; Mel'nikov, N. A.; Bershadskiy, L. S. 21
B

ORG: none

TITLE: Honoring the 60th birthday of Aleksandr Dmitriyevich Romanov

SOURCE: Elektricheskiye stantsii, no. 11, 1965, 94

TOPIC TAGS: electric power plant, industrial personnel

ABSTRACT: In July 1965 A. D. Romanov celebrated his 60th birthday and the 35th anniversary of his active life as a major designer, operator, and builder of electric power stations. On his graduation in 1927 from the Moscow College of Engineering, Aleksandr Dmitriyevich joined the Mosenergo Moscow Power System where he steadily rose through the ranks until he became Deputy Chief Engineer, while at the same time participating in the design and practical introduction of 500-kV electric transmission lines running from Moscow to Volzhskaya Hydroelectric Power Station and from Kuybyshev to the Urals. Since 1959 A. D. Romanov has been Chief Engineer at the Glavvostokelektroset'stroy Main Administration for Power Grid Construction in Eastern USSR of the Card 1/2

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ACC NR: AP6018890

State Production Committee for Energetics and Electrification USSR. Along with his active work, since 1930 A. D. Romanov has been teaching courses in Power Networks and Systems as well as in Power Stations and Substations at the Moscow Correspondence Institute of Energetics and, later, at the All-Union Correspondence Institute of Energetics, and, in this capacity, has trained new cadres of power engineers. In 1957 the title of Assistant Professor was conferred on him and in 1963, the title of Candidate of Technical Sciences. He has published more than 40 scientific and technical articles on power engineering and construction and he is a member of the editorial boards of the periodic anthologies Energeticheskoye Stroitel'stvo (Power Construction) and Energeticheskoye Stroitel'stvo za Rubezhom (Power Construction Abroad). He has been a Party member since 1932 and is the bearer of the Order of Labor Red Banner as well as of various medals. Best wishes for further creative work are extended to him. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 10 / SUBM DATE: none

Card 2/2 CC

1. 30601-60 INT(1)/BTC(1)/EPF(n)-2/ENG(m) JJP(s) AT/CD

ACC NR: AT6001615

SOURCE CODE: UR/3136/65/000/932/0001/0029

AUTHOR: Nezlin, M. V.; Sapozhnikov, G. I.; Solntsev, A. M.

ORG: none

TITLE: Long-wave electron oscillations in a beam-plasma system

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-932, 1965.
Dlinnovolnovyye elektronnyye kolebaniya v sisteme puchok-plazma, 1-29

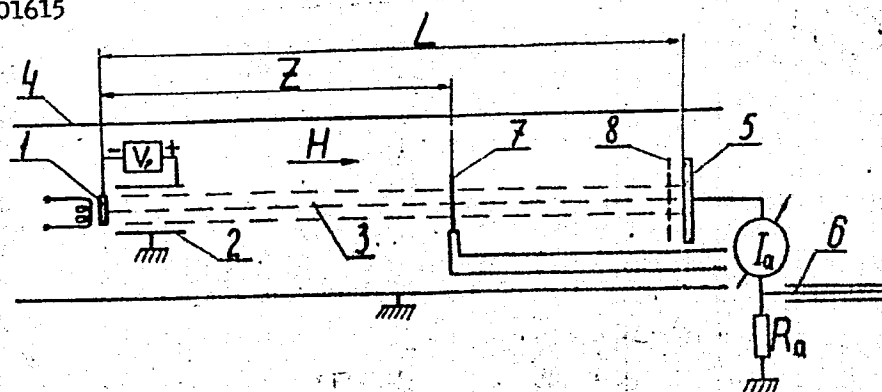
TOPIC TAGS: electron oscillation, plasma, electron beam

ABSTRACT: As previous experimental investigations (e.g., C. C. Cutler, Proc. IRE, 44, 61, 1956) of r-f oscillations in electron beams propagating in vacuum were desultory, the present experiments have been conducted to obtain a systematic picture of the oscillations spectrum, nature, and excitation mechanism. A beam of electrons 3 emitted by W heater-type cathode 1 (see figure) was accelerated by electrode 2 to a few hundred ev and traveled along a strong

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L 39601-66

ACC NR: AT6001615



Experimental outfit

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ACC NR: AT6001615

magnetic field, in an equipotential space, along the axis of metal-wall cylinder 4. A movable anode 5 permitted adjusting the beam length within 16—150 cm; other components: 6 - measurement cable, 7 - needle probe, 8 - grid, R_a - measurement resistance; hydrogen pressure, 10^{-6} — 10^{-4} torr; magnetic field, 1000—5000 oe. Spectra of electron-current oscillations at the anode and at the probe were measured. A plasma was formed as a result of gas ionization by the beam, the plasma density being commensurate with that of the beam. The spectrum of these non-Langmuirian oscillations consists of a number of harmonics whose wavelengths obey the formula: $\lambda_n = 2L/n$ (where n is the number of the harmonic and L is the beam length) and whose frequencies ω_n are determined by the beam-electron velocity V in this way: $\omega_n \approx K_n V$, where $K_n = 2\pi/\lambda_n$. The experiments corroborate the theory of longitudinal electron oscillations in a homogeneous beam-plasma system having limited longitudinal and transverse dimensions. Orig. art. has: 11 figures and 20 formulas.

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 008 / OTH REF: 009

Card 3/3

L 16581-66 EWT(1)/ETC(f)/EPF(n)-2/ENG(m) IJP(c) AT

ACC NR: AP6007215

SOURCE CODE: UR/0056/66/050/002/0349/0363

AUTHOR: Nezlin, M. V.; Sapožhnikov, G. I.; Solntsev, A. M.

ORG: none

TITLE: Long wave electron oscillations in a beam-plasma system

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 2, 1966, 349-363

TOPIC TAGS: electron oscillation, electron beam, plasma beam, plasma beam interaction, longitudinal magnetic field, gas ionization, gas pressure, excitation spectrum

ABSTRACT: Long wave electron oscillations excited by an electron beam in a rarefied plasma in the presence of a strong longitudinal magnetic field are investigated experimentally. The plasma is produced as a result of ionization of the gas by the beam. The gas pressure $\sim 10^{-5}$ mm Hg and the plasma density is comparable with that of the beam. The oscillations observed are not Langmuir oscillations. Their spectrum consists of a number of harmonics, the wavelengths of which (λ_n) obey the relation $\lambda_n = 2L/\lambda_n$ (n is the harmonic number and L is

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ACC NR: AP6007215

the beam length). The frequencies ω_n are defined by the velocity of the beam electrons (v) and the wavelength: $\omega_n \sim k_n v$ where $k_n = 2\pi/\lambda_n$. It is shown that the excitation conditions of the oscillations and their spectral characteristics are in good agreement with the theory of longitudinal electron oscillations in an homogeneous beam-plasma system with restricted longitudinal and transverse demensions. The authors take the opportunity to express their appreciation to Ya. B. Faynberg for his interest in this work and for his useful comments, and A. Ye. Bazhanova for providing the roots of dispersion equations with the aid of a computer. Orig. art. has: 11 figures and 6 formulas. [Based on author's abstract]

SUB CODE: 20/ SUBM DATE: 27Aug65/ ORIG REF: 008/ OTH REF: 010/

Card 2/2

BIBIKOV, F.D.; BORISOVA, A.P., veterinarnyy vrach; SAPOZHNIKOV, G.I.;
ADIL'KHANOV, G.I., nauchnyy sotrudnik; ALIYEV, A.I., kand. veterin.
nauk

Cases of animal poisoning. Veterinariia 41 no.5:90-92 My '64.
(MIRA 18:3)

1. Zaveduyushchiy khimiko-toksikologicheskim otделom Belorusskoy respublikanskoy veterinarnoy laboratorii (for Bibikov).
2. Belorusskaya respublikanskaya veterinarnaya laboratoriya (for Borisova).
3. Zaveduyushchiy epizootologicheskim otделom Chuvashskoy respublikanskoy veterinarnoy laboratorii (for Sapozhnikov).
4. Dagestanskaya nauchno-issledovatel'skaya veterinarnaya stantsiya (for Adil'-khanov, Aliyev).

NARZIKULOV, M.N., otv. red.; BORISOV, V.A., red.; OVCHINNIKOV,
P.N., red.; POKROVSKIY, V.S., red.; SAPOZHNIKOV, G.N.,
red.; SHAPOSHNIKOV, L.K., red.; VINOGRADSKAYA, S.N.,
red.izd-va; GELLER, S.P., tekhn. red.

[Transactions of the All-Union Congress on the Conserva-
tion of Nature] Trudy Vsesoiuznogo soveshchaniia po okh-
rane prirody. 3d. Dushanbe, ~~M~~issia po okhrane prirody
AN Tadzhik.SSR, 1961. 128 p. (MIRA 17:3)

1. Vsesoyuznoye soveshchaniye po okhrane prirody. 3d,
Dushanbe, 1960.

FIDELEV, A.S., doktor tekhnicheskikh nauk; SAPOZHIKOV, G.Ya., inzhener.

25 ton trolley truck. Mekh.trud.rab. 8 no.7:22-23 O-N '54.

(Electric vehicles)

(MLRA 8:1)

SAPOZHNIKOV, G.Ya.

SAPOZHNIKOV, G.

25 - ton electric trolley dump truck. Avt.transp.32 no.12:34
D '54. (MLA 8:3)

(Dump trucks) (Automobiles, Electric)

SAPOZHNIKOV, I.A. (poselok Zagoryanskaya, Yaroslavskoy zheleznoy dorogi).

Longevity of orchards in the Moscow area. Priroda 47 no.6:107-108
Je '58. (MIRA 11:7)
(Moscow Province---Fruit culture)

5(0)

AUTHOR:

Sapozhnikov, I. G., Doctor of Geological-
mineralogical Sciences SOV/30-59-4-51/51

TITLE:

Letter to the Editor (Pis'mo v redaktsiyu). The Mineral Salts -
a Valuable Source of Raw Material of the Chemical Industry
(Mineral'nyye soli - tsennyy istochnik syr'ya dlya khimicheskoy
promyshlennosti)

PERIODICAL:

Vestnik Akademii nauk SSSR, 1959, Nr 4, pp 157 - 158 (USSR)

ABSTRACT:

The author suggests to extract salt from the Aral'skoye Sea
as well as from the Balkhash, Alakol' and Issyk-Kul' lakes as a
raw material and to utilize it. According to a calculation
the water of the Aral'skoye Sea as well as of the Issyk-Kul'
contain 1000000000 t salt each. Apart from sodium and calcium
also magnesium, potassium and other elements are supposed to
occur. For the production the author suggests the method of
evaporation which will be carried out in a number of artificial
basins. In winter the method of freezing is to be employed
which permits to obtain considerable quantities of fresh water
which is very precious in this dry climate. The water flowing
from the lakes into the reservoirs can be used for the

Card 1/2

SAPOZHNIKOV, I.I.

Comparative study of the immunological effectiveness of vaccination with sorbed and nonsorbed pertussis-diphtheria-tetanus vaccines and pertussis-diphtheria vaccine. Zhur. mikrobiol., epid. i immun. 42 no.11:86-89 N '65. (MIRA 18:12)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.
Submitted May 5, 1965.

SAPCZHNIKOV, I.I.; SATTAROV, I.S.

Use of the indirect fluorescence method for an early detection
of pertussis and parapertussis antibodies. Zhur. mikrobiol.,
epid. i immun. 42 no.7:103-108 J1 '65. (MIRA 18:11)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

ZAKHAROVA, M.S.; SAPOZHNIKOV, I.I.; BELYAKOV-BODIN, V.I.

Cybernetic analysis of some data of immunoepidemiological studies. Zhur.mikrobiol., epid. i immun. 42 no.12:16-20 D '65. (MIRA 1961)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

ISAYENKO, Lyudmila Alekseyevna; SAPOZHNIKOV, Ivan Konstantinovich; NOVIKOV, Ya.A., redaktor; SAKHAROVA, N.V., tekhnicheskii redaktor; TSYPO, P.V., tekhnicheskii redaktor

[Natural science (life of animals); textbook for the 6th grade in auxiliary schools] Estestvoznaniye (zhizn' zhivotnykh); uchebnik dlia 6-go klassa vspomogatel'nykh shkol. Izd. 8-oe. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1956. 141 p.
(Zoology) (MIRA 9:10)

SAPOZHNIKOVA, I.V., red.

[Irrigation rates for farm crops] Rezhim orosheniia
sel'skokhoziaistvennykh kul'tur. Moskva, Kolos, 1965.
230 p. (MIRA 19:1)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk
imeni V.I.Lenina.

SAPOZHNIKOV, I.V.

We use machinery for snow removal. Put' i put.khoz. 4 no.10:20
0 '60. (MIRA 13:9)

1. Nachal'nik Abdulinskoy distantzii, st. Abdulino, Kuybyshevskoy dorogi.
(Railroads--Snow protection and removal)

OVES, Il'ya Semenovich, kand. tekhn. nauk; SAPOZHNIKOV, Il'ya Zinov'yevich; MARTSINSKIY, A.F., inzh., retsenzent; KONDRASHOV, A.V., inzh., retsenzent; SHERBAKOV, S.N., nauchn. red.; MORSKOY, L.K., red. izd-va; RODIONOVA, V.M., tekhn. red.

[Organization of the supply and replenishment of materials and equipment for construction] Organizatsiia material'no-tekhnicheskogo snabzheniia i komplektatsii stroitel'stva; opyt raboty Glavmosstroia. Moskva, Gosstroizdat, 1963. 213 p. (MIRA 16:12)

(Construction industry--Management)

SMOLOV, Vladimir Borisovich; LEBEDEV, Andrey Nikolayevich;
SAFOZHNIKOV, Konstantin Andreyevich; DUBININ, Yakov
Ivanovich; SMIRNOV, Nikolay Anisimovich; BODUNOV,
Vasiliy Pavlovich; UGRYUMOV, Yevgeniy Pavlovich;
YATSENKO, Vladimir Pavlovich. Prinimali uchastiye:
BALASHOV, Ye.P.; AFANAS'YEV, Ye.Ye.; SEMENOVA, M.T.,
red.; GRIGORCHUK, L.A., tekhn. red.

[Electronic analog computers] Vychislitel'nye mashiny
nepreryvnogo deistviya. [By] V.B.Smolov i dr. Moskva,
Vysshaya shkola, 1964. 552 p. (MIRA 17:3)

L 27239-65 EMT(d)/EPF(n)-2/EWP(1) Po-h/Pq-h/Pg-h/Pu-h/Pk-h/P1-h EJP(c)
 ACCESSION NR: AT5003914 WW/GS/BC S/0000/64/000/000/0179/0187

AUTHOR: Borzenko, I. M.; Sapozhnikov, L. A.

TITLE: Solution of optimal problems by the maximum principle, using analog computers and logic circuits

SOURCE: Vsesoyuznaya konferentsiya - seminar po teorii i metodam matematicheskogo modelirovaniya. 3d, 1962. Vychislitel'naya tekhnika v upravlenii (Computer technology in control engineering); sbornik trudov konferentsii. Moscow, Izd-vo Nauka, 1964, 179-187

TOPIC TAGS: analog computer, optimal control system, logic circuit, extremal control

ABSTRACT: The problems considered in this article involve the compilation of a time program for optimal control, in which the motion of the dynamic system, such as the technological process, acquires certain extremal properties (maximum economy, maximum speed). The optimal control signals must be generated periodically to prevent accumulation of errors. The initial and final states of the process are fixed. Tests made previously in connection with the system developed by TsNIKA

Card 1/2

L 27239-65

ACCESSION NR: AT5003914

for optimal control of the supply of material to an open hearth furnace have shown that digital computers cannot be used in such problems. The problem consists essentially of selecting continuously control signals corresponding to the maximum value of the Hamiltonian of the system, and to search for such initial conditions for the conjugate system that make the solution of the fundamental system satisfy the boundary conditions. A similar problem was solved by D. P. Eckman and J. Lefkowitz (Control Engineering, September 1957, v. 4, No. 9, pp 197-204), but the control functions enter in the main equations in nonlinear fashion, and the control signals can assume arbitrary values. Several variants for solving this problem theoretically are proposed and a block diagram for an analog computer designed for the purpose is presented. The results show that the use of logic elements in the analog computer extends greatly the possibility of such computers and makes it possible to solve many practical problems in which the maximum principle is used. "The authors thank engineer L. M. Zaydenberg who actively participated in the discussion of the results of the work." Orig. art. has: 5 figures and 7 formulas.

ASSOCIATION: None

SUBMITTED: 17Aug64

ENCL: 00

SUB CODE: DP, IE

NR REF SOV: 004

OTHER: 001

Card 2/2

L 10254-63 EWT(d)/FCC(w)/BDS AFFTC/ASD/ESD-3/APCC Pg-4/Pk-4/Po-4/
Pq-4 00/IJP(c)
ACCESSION NR: AP3001087 S/0103/63/024/006/0769/0773

AUTHOR: Levin, I. Ya. (Leningrad); Sapozhnikov, L. B. (Leningrad) 75

TITLE: Recognition algorithms 16

SOURCE: Avtomatika i telemekhanika, v. 24, no. 6, 1963, 769-773

TOPIC TAGS: character recognition, "Ural-1" computer

ABSTRACT: The problem of recognition of patterns by statistical methods is considered. Likelihood ratio and discriminant function are two types of statistics often used in solving recognition problems. A new algorithm based on a set of logical functions is suggested. Experiments in recognizing Russian A and K written in longhand (30 patterns of each written by different persons) are reported; the discriminant-function method and the new algorithm were used for recognition. In the latter case, it was found that the probability of correct recognition (85 per cent) rises with the number of logical functions used up to about 50 functions. "Ural-1" electronic computer was used in the experiments. Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: none
SUBMITTED: 19Nov62
SUB CODE: 00
Card 1/1 *llm/jw*

DATE ACQD: 01Jul63
NO REF SOV: 002

ENCL: 00
OTHER: 007

FLYAT, Sh.N., SAPOMNIKOV, I.B.

Heat distribution in concrete blocks during construction. Inst.-zhur.
zhur. no. 7:65-71 31 '64. (MIRA 17:10)

1. Institut gidrotekhniki Im. B.Ye. Valeneyeva, Leningrad.

SAPOZHNIKOV, L.B.; TSYRLIN, L.E.

Scattering of electrons by a potential barrier. Radiotekh. i
elektron. 9 no.6:1029-1033 Je '64. (MIRA 17:7)

CO 2

Catalysis in the solid state. Catalytic decomposition of mercuric oxide. S. Z. ROZINSKI, L. M. SARGENTOV AND N. A. KUCHENKO. *Ukrainskii Khim. Zhur.* 4, Sci. Pt. 99 (1979); cf. C. A. 23, 755. — Formation of a film of reaction products prevents further action of the catalyst but induces autocatalytic reactions. Catalysts differ in their ability to form autocatalytic centers and in the temp. required to start the reaction. Autocatalysts and heat evolved obscure the real catalytic effect. If the reaction occurs in the solid phase its velocity is proportional to the no. of contacts between crystals, and the change in the velocity with the change in the amt. of catalysts is expressed by: $A_p/A_s = M_s/(M_s + M_p\Delta)$ and $A_p/A_s = M_p\Delta/(M_p\Delta + M_s)$ (A_s , A_p , A_s are, resp., no. of contacts of crystals of the substance with those of the catalyst, of catalyst crystals with each other and of crystals of the substance with each other, M_s and M_p are wts. of catalyst and of the substance, Δ is ratio of sp. gr. of catalyst and of the substance). The equations were verified for the decompn. of HgO in the presence of CuO. Sepn. of intermediate compds., not detected in these expts., was attempted by a new general method of condensing them on cooled surfaces. Induction period and self-acceleration of the reaction were not observed. In the presence of large quantities of finely dispersed catalysts the equation $dx/dt = K(a - x)^n$ holds, except at the end of the reaction when the size of decomposing crystals reaches that of the catalyst. All catalysts of the oxide group accelerate the reaction except Cr₂O₃, which reacts chemically with HgO. In the disson. of solid compds. the equil. pressure of O is const. The action of catalysts is confined to places of direct contact, and is due to the strong elec. fields formed on the surface of the catalysts.

V. KRASHLOVSKY

ASH-35A METALLURGICAL LITERATURE CLASSIFICATION

21

Measuring the electric conductivity of coal in the process of coking. I. M. Sapozhnikov and V. I. Karmazin. *Khim. Tverdogo Topliva* 2, No. 4, 60-72 (1931).—The changes in the elec. properties of coals during coking were investigated, with gas coal, coking coal and low-grade coal. Elec. cond. was noticeable upon the hardening of the plastic mass of the coal. The cond. of coke depends mainly upon the temp. The evapn. of moisture, the melting of bitumen on the surface of the coal particles, and the formation of melted alloys affect the cond. The conversion of the semi-coke to coke and the crystn. of the C cause a permanent loss of the cond. The difference is particularly noticeable at room temp. Probably it is possible to det. the degree of crystn. of the C which would correspond to a given temp., on measuring the cond. of the cooled sample previously heated to 700° and higher. The cond. curves obtained for coked and non-coked coals are very much alike. It may be assumed that the characteristic coking phenomena do not have any effect on the cond. curves. A. A. B.

ASAP 51A METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

21

Problem of selecting the charge in coke production. L. M. Sadovskiy, *Doklady Akad. Nauk SSSR*, 1931, No. 6, 46-47. — A series of coals was investigated to det. their suitability for coking. The coals were tested for their ability to caking and their swelling and setting properties. To understand the coking mechanism of a given coal in the various stages of coke formation it is only necessary to know yield of volatile substances, the coking ability of the coal and its swelling curve constructed according to Koppers' method. All these properties are additive and, therefore, it is possible to det. beforehand the kinds and proportions of coals to be mixed to get a good grade of coke.

S. L. MADONSKY

ASB-312 METALLURGICAL LITERATURE CLASSIFICATION

101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

ca

21

THEORY OF "DIFFICULT WORKING OF COKE OVEN." L. M. SARANIKOV. *Dokl. Akad. Nauk SSSR* 1931, No. 10, 72-5. Difficulties encountered in the operation of the coke oven and in the removal of the coke from the oven are due to irregular exsiccation between the time of swelling and time of setting of the coke mass, and to the rough surface of the coke which prevents its smooth removal from the oven.

S. L. MADONSKY

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND SECTIONS																		3RD AND 4TH SECTIONS																	
PROCESSING AND PROPERTIES INDEX																																			
<i>BZ-2</i> Pneumatic investigation of the coking process. L. M. SAFONOVICH and L. P. BASTEVICH (Khim. Tverd. Topt., 1932, No. 81—107).—A laboratory furnace reproducing conditions in coke ovens is described. Caking and swelling abilities and shrinkage are discussed. CN. ANS.																																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																																			
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COMMON ELEMENTS										COMMON VARIANTS									
1ST AND 2ND ORDER										3RD AND 4TH ORDER									
<i>CU</i> PROCESSES AND PROPERTIES INDEX A laboratory method for selection of coal charge and determination of its coking properties. L. M. Sengul, <i>ibid.</i> and N. A. Bakun. <i>Coal and Chem.</i> (U. S. S. R.) 1962, No. 11, 73-8. The nature of the coking process of Donets basin coals was studied, and a lab. method for the detn. of coking properties of com. coal mixts. was developed. A simple app. was designed for this purpose, the essential features of which are: a steel cylinder for the coal sample, a perforated plunger connected with hydraulic compensator and a manometer. The coal sample inside the steel cylinder is heated from the outside by an elec. coil (temp. rising 20° per min.); the pressure of the gases generated is transmitted through the plunger and hydraulic compensator to the manometer. The gases liberated inside the coal sample can only escape through the perforations in the plunger and in order to do so have to overcome the resistance of the plastic layer formed around the sample. The speed of the evolution of gas and the degree of the permeability of the plastic layer are the factors detg. the pressure registered by the manometer. The pressures recorded by this app. for different coals were found to correspond very closely to the drum tests for detn. of mech. properties of coke of these coals, especially when single-grade coals were tested. This method is recommended also as means for proper selection and proportioning of the coal mixts. with the desired coking properties. James Sorrel										21									
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION										FROM SOURCE									
1ST AND 2ND ORDER										3RD AND 4TH ORDER									

60

21

The degree of carbonization of coals in plasticometric coordinates. I. L. M. Svyetshikov and A. E. Hidel'man. *Khim. Tverdykh Tela* 3, 660-4 (1964).—It is proposed to det. the suitability of coals for the prepn. of coke by their plastic properties. It is possible to predict the properties of a coal by measuring its plastic layer and plotting the other properties on a diagram. A. A. B.

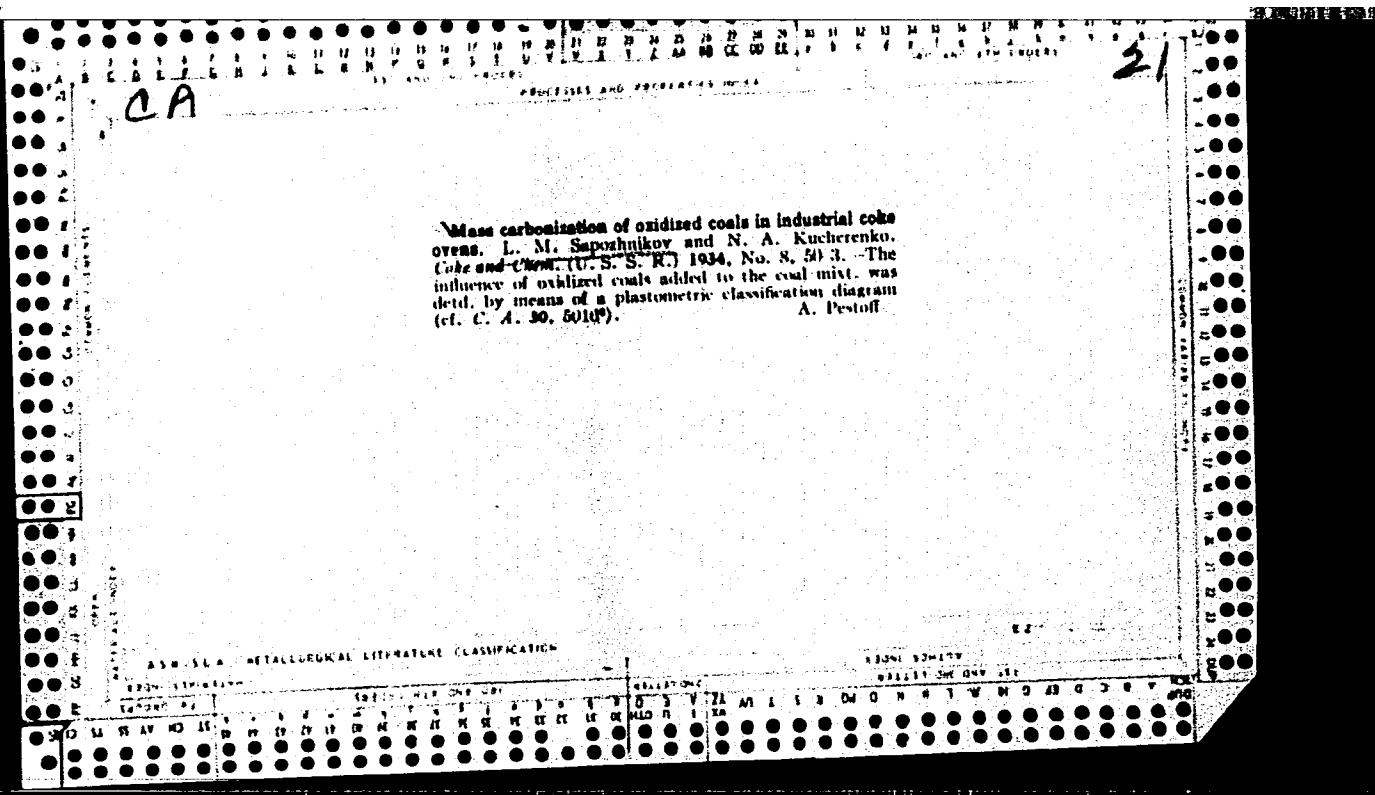
ASH-SLA DETALLURGICAL LITERATURE CLASSIFICATION

FROM 517-83124

FROM 501197

ABSTRACTS UNIT 156

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
ca 21 Calculation of coal mixtures for the production of coke. L. M. Sapozhnikov and L. P. Bazilevich. <i>Coke and Chem.</i> (U.S.S.R.) 1934, No. 5-6, 13-21. -- Description and application of a classifying diagram of coking coals, which enables one to det. the behavior of coals during carbonization on the basis of 2 factors: the thickness of the plastic layer and the magnitude of the drop of the curve of expansion pressure. A. Pestoff																																																			
COMMON ELEMENTS COMMON VARIANTS																																																			
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TEST AND PROPERTIES

PROCESSES AND PROPERTIES

COMMON ELEMENTS

21

Characterization of coal as indicated by its caking properties. H. M. Stefanowsky, Trans. V. Mendeleev Congr. Theor. Appl. Chem. 1932 2, Pt. 2, 375-9(1935).— The thickness of the plastic layer measured in an app. that permits change in volume of the coal and the swelling pressure of the coal are all the properties that are required to appraise its sintering properties and to determine whether it will make a dense cake. H. B. Stefanowsky

ASTM A 5.1 METALLURGICAL LITERATURE CLASSIFICATION

FIGURE 1

FIGURE 2

FIGURE 3

FIGURE 4

FIGURE 5

FIGURE 6

FIGURE 7

FIGURE 8

FIGURE 9

FIGURE 10

FIGURE 11

FIGURE 12

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FIGURE 91

FIGURE 92

FIGURE 93

FIGURE 94

FIGURE 95

FIGURE 96

FIGURE 97

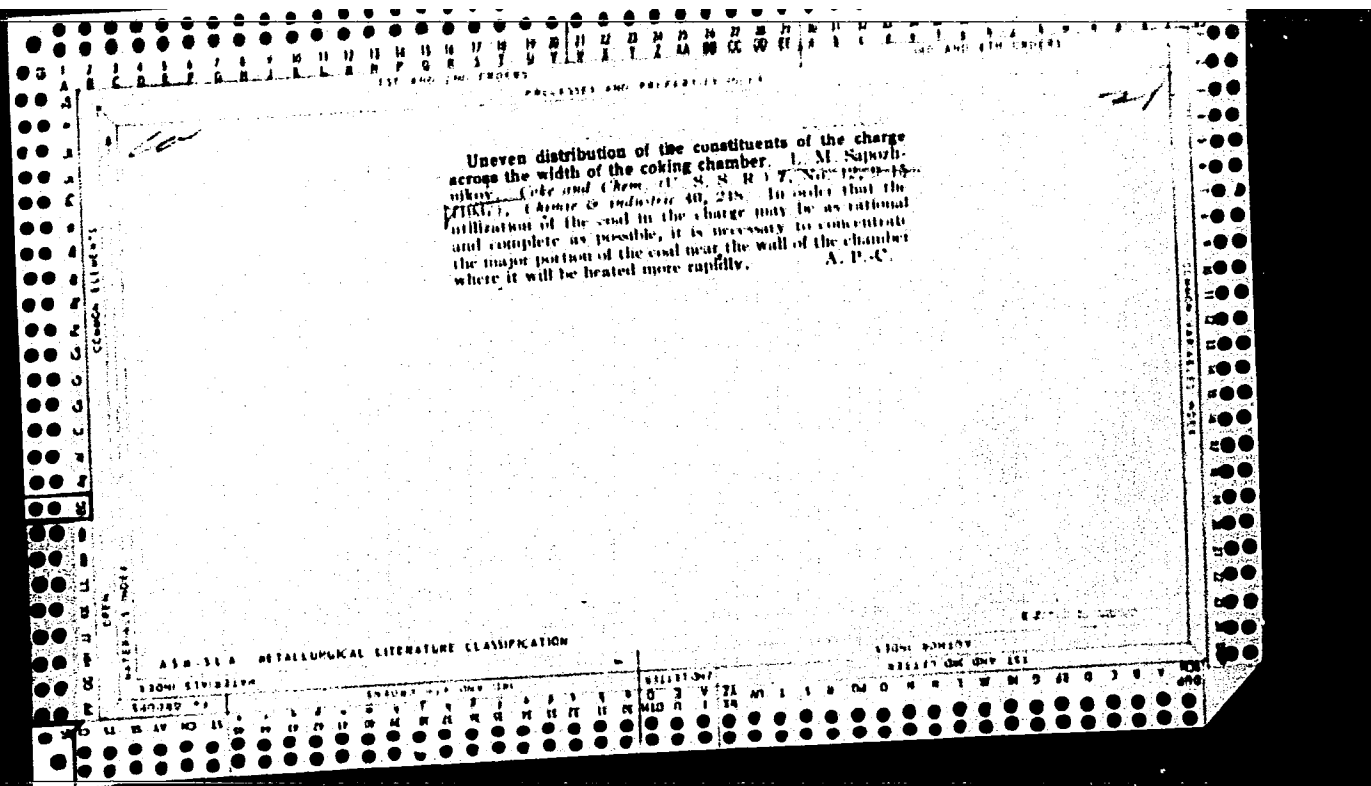
FIGURE 98

FIGURE 99

FIGURE 100

13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100									
107 AND 2ND ORDERS									
<i>Ca</i> The parameter of the plastometric classification [of coals]. IV. L. M. Sapozhnikov and A. Z. Pashkevich. <i>Khim. Tverdogo Topliva</i> 6, 202-8(1935); <i>Chem. Zentr.</i> 1936, II, 4071; cf. C. A. 31, 7823; Basilevich, C. A. 28, 3210. A study of the decline in the vol. curve (shrinkage) in relation to the velocity of heating of the coal in the plastometric app. at a heating velocity of 3.5 and of 10° per min. In the case of some coals the depression in the vol. curve is less with increase in the velocity of heating, while other coals behave in the opposite manner (cf. C. A. 30, 5016). Coals which under normal exptl. conditions show a shrinkage of less than 20 show a decrease in the depression of the vol. curve upon increasing the velocity of heating, while coals having a shrinkage of over 20 show an increase in this effect in forced heating. In the classification diagram of the coals the 2 groups of coals lie in the left and right portions of the diagram. The coals lying in the left of the diagram yield a coke having fissures in the longitudinal direction and a prismatic structure, while the other group of coals yields coke with sharply developed cross fissures. Coals in the right corner of the diagram yield at 1050° a coke strongly fissured in the cross direction, as compared with specimens treated at 950°. With the coals in the left corner of the diagram very slight differences were observed in specimens treated at these 2 temps. Mixts. consisting of coals falling in the left half of the classification diagram were but slightly sensitive to forced heating during the coking process. M. G. Moore									
100 AND 6TH ORDERS									
ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION 100th DIVISION 100th DIVISION 100th DIVISION 100th DIVISION									
100th DIVISION 100th DIVISION 100th DIVISION 100th DIVISION									

1ST AND 2ND COPIES										3RD AND 4TH COPIES									
PROCESSES AND PROPERTIES INDEX																			
5										3									
Coking Properties and Classification of Coals. L. M. Sapozhnikov. (Coal Carbonisation, Supplement to Colliery Engineering, 1937, vol. 3, Mar., pp. 42-44; Apr., pp. 95-97). The author outlines researches conducted on Russian coals with a view to explaining their application to coke-making purposes.																			
ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION																			
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CA 9

Processes and Properties of Blast-furnace Coke and the Mechanism of Agglomeration of the Coal and the Charge. L. M. Sazonnikov. *Coke and Chem.* (U. S. S. R.) 8, No. 10, 10-17 (1958); *Chem. Zentr.* 1959, I, 5085; cf. C. A. 32, 9449. —After a discussion of the various methods of agglomeration with different kinds of coal, the correct compn. of the charge from this point of view is discussed. Comparison of the phys. properties of the coke and its suitability for blast-furnace used showed no direct relation to exist between the rattler test and the metallurgical properties. Those cokes which were produced with high shrinkage from charges of high C content possessed the best properties for use as blast-furnace coke. M. G. Moore

AS - SLA METALLURGICAL LITERATURE CLASSIFICATION

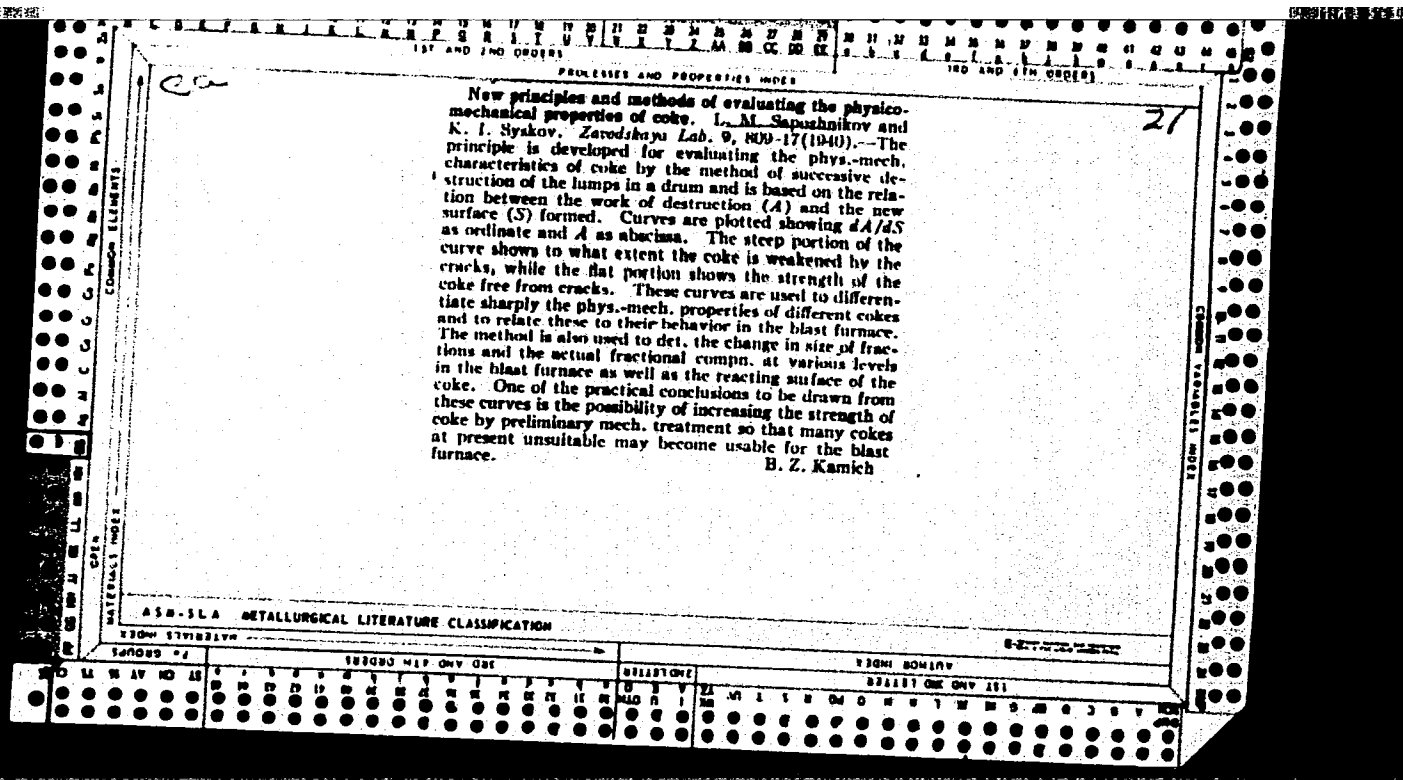
The Lustre, Tinge and Reflective Characterization of Coals. *L. M. Sapozhnikov and K. I. Syakov.* (Koks i Khimiya, 1939, No. 4-5, pp. 3-7). (In Russian). An electrophotometer used for tests on specimens of coke formed in plastometer tests at a final temperature of 750° C. is described. Lustre is defined as the light intensity measured with the reflecting surface of the coke inclined at 45° to both the incident rays and to the axis of the photo-electric cell. The light intensity due solely to the tinge of the coke is measured with the reflecting surface inclined at 22.5° or 67.5° to the incident ray. The reflectivity of the specimen is given by the difference between the lustre and tinge measurements. Measurements were made on surfaces formed by cracks through the specimens and also on artificial cleavage planes. Consistent results were obtained without the need for any preparation of the reflecting surfaces. The possibility of using the results of optical measurements for the classification of coals and cokes is envisaged.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<i>CA</i> A new method for the characterization of agglomerated coals. L. M. Sapozhnikov and E. M. Taitz. <i>Bull. acad. sci. U. R. S. S., Chem. tech.</i> 1939, No. 10, 5-8; <i>Chem. Zvest.</i> 1940, II, 847.—An app. is described for the detn. of the change in vol. of coal in relation to the temp. A definite amt. of the coal is mixed with an excess of inert material (as quartz sand) and the vol. change which takes place upon heating is measured. This value is a measure of the agglomeration of the coal. M. G. Moore <i>21</i>																																																			
COMMON ELEMENTS COMMON VARIABLE INDEX ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION 12000 SYMBOL 12000 SYMBOL 12000 SYMBOL																																																			

1ST AND 2ND CODES										3RD AND 4TH CODES									
PROCESSES AND PROPERTIES INDEX																			
Ca Investigation of coking coals. L. M. Sapozhnikov. <i>Dokl. akad. sci. U. R. S. S., Classe sci. tech.</i> 1940, No. 2, 13-40; cf. C. A. 35, 8804.—The paper discusses the prop- erties of the plastic state of coals, the theory of the plastic state of individual coals and the plastometric classifica- tion of different types of coals. Righteen references. W. R. Henn 21																			
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111 AND 110 ORDER		PROPERTIES AND PROPERTIES INDEX		160 AND 110 ORDER	
New Coefficients of the Physico-Mechanical Properties of Coke. L. M. Sapozhnikov and K. I. Syakov. (Koks i Khimiya, 1940, No. 8, pp. 3-8). (In Russian). The authors outline and discuss a scheme for the determination of three physico-mechanical characteristics of blast-furnace coke and consider their relation to the behaviour of coke in the blast-furnace. The drum test is used for the determination of the strength of the coke, the results being expressed in terms of work done plotted against the total surface area (determined by slow sieving) developed by the coke in the drum. The curve obtained has an initial curved portion which characterises the initial breaking up of the lumps of coke due to the cracks originally present, and a subsequent straight-line portion over which the surface developed is proportional to the work done. The first portion of the curve can be used to characterise the lump strength of the coke (with cracks), and the second straight-line portion the strength of the coke material itself. The authors then determine the progressive change in screen analysis of the coke and plot this against the work done on the coke in the drum. This is an important characteristic, as the progressive change in screen analysis provides an indication of the state of the coke at different levels in the blast-furnace. Furnace operating data (blast and burden permeability figures) obtained with several different coques are given to illustrate their relation to the coefficients determined by the test methods suggested by the authors.					
ASM-AIA METALLURGICAL LITERATURE CLASSIFICATION					
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111 AND 110 ORDER					



Kamennoye Ugli (Metallurgicheskii) Koks. (Coal and Metallurgical Coke). L. M. Sazonchukov. 78 pages. 1941. Institute of Combustible Minerals, Academy of Sciences of the U.S.S.R., Moscow and Leningrad.

Describes contemporary theory of the technological properties of coals, the theory of coking developed by the author, and its application in the practical evaluation of coal and coal deposits. Presents new theories of coal clinkering, of mechanical properties of coal, and of qualities of metallurgical coke. 32 ref.

ASU-5LA METALLURGICAL LITERATURE CLASSIFICATION

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<i>LA</i> 21 The mechanical strength of blast-furnace coke. L. M. Sapozhnikov. <i>Stal</i> 1941, No. 4, 3-11; <i>Chem. Zvezd.</i> 1942, 2: 1922; cf. C. A. 36, 1627.—In a special app. coke was subjected to the same destructive action as in blast-furnace operations, and math. relations for detg. the mech. strength were derived. H. W. Rathmann																																																			
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CA

PROCESSES AND PROPERTIES INDEX

A theory of the formation of black-furnace coals. L. M. Sapozhnikov. *Bull. acad. sci. U. R. S. S., Class. sci. tech.* 1941, No. 4, 3-26. — The fusion of the softened coal mixts. is a surface process and is detd. by the state and the magnitude of contact surfaces, by the deforming properties of plastic grains of the components under the influence of outside forces and by the character of these outside forces. There are considered 2 fundamental cases of fusion: (1) the mixt. contains only coals which form during coking a nonflowing plastic mass and (2) the mixt. also contains coals which form during the plastic period an easily deformable mobile medium. In the 1st case the grains of all components of the mixt. are transformed during the plastic period into very viscous, nonsticky substances which are deformed with difficulty. In this case the contact surface of the softened grains with each other is very small. The slight deforming ability of plastic grains of such coals prevents them from increasing the contact surface and the nonsticky surfaces cannot produce a strong adhesion of the grains at the contact surfaces. The swelling pressure facilitates considerably the adhesion of the plastic grains by pressing the grains against each other and increasing the contact surface. Artificial compression in the coal mixt. produces the same effect. Differential grindings of the components of the coal mixt. det. the mech. properties of coke; increase of the strength of coke from coarse grinding of both components disproves

Inst. Mineral Fuel,
AS USSR

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX																																																			
<i>Ca</i> <i>21</i> A method for evaluating the behavior of coke in blast furnaces. L. M. Sapozhnikov. <i>Coke and Chem.</i> (U. S. S. R.) 11, No. 6-7 (1931); <i>Chem. Zvest.</i> 1943, 1, 914. — The Mineral Fuel Institute at the Academy of Science of the U. S. S. R. carried out exper. to evaluate the behavior of coke in blast furnaces. Coke samples were taken at the Magditskaya and Sapozhnik plants. An expl. app. was built which reproduced the destructive action on the coke which occurs in blast furnaces. The behavior of coke in blast furnaces is characterized by means of math. equations and a graphic chart. R. W. Ryan																																																			
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2a 21 Toughness of coke and theory of interaction between coals in coke-oven mixtures as a basis for increasing raw material supplies in the coke industry. L. M. Sapozhnikov and G. V. Speranskaya. <i>Bull. Acad. Sci. U.S.S.R. Classe Sci. tech.</i> 1947, No. 3, 323-340; <i>Dept. Sci. Ind. Research (Brit.), Fuel Abstracts</i> 2, No. 6, 26(1947).—A theory is proposed that the thermal stability of coke, as measured by the extent of cracking when it is subjected to high temp., is a function of the interaction between the coals in coking mixts. Use of the thermal stability of coke, rather than drum tests, as an index of quality, is recommended. This would broaden the range of coals suitable for production of metallurgical coke. M. F. R.																									
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SAPozhnikov, L.M.

✓ Sapozhnikov, L. M., and Speranskaya, G. V.: Issledovanie sovremennykh printsiipov koksovaniya uglei (Research on Contemporary Principles of Coal Coking). Moscow: Izdatel' Akad. Nauk S.S.S.R. 1968. 63 pp.

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①

SHPOZHNIKOV, L.M.

Fuel Abstracts
Vol. XV No.2
Feb. 1954
Manufactured
Solid Fuel and
Carbon Products:
Properties

✓ 1098. SCIENTIFIC PRINCIPLES APPLIED TO ENLARGEMENT OF SOURCE OF RAW MATERIALS FOR CARBONISATION (MANUFACTURE OF BLAST FURNACE COKE FROM LOW GRADE COAL). SHPOZHNIKOV, L.M. ✓ (Vestn. Akad. Nauk SSSR (J. Acad. Sci. U.S.S.R.), Aug. 1948, vol. 18, 112; abstr. in Chem. Abstr., 1953, vol. 47, 7189, 7190). Under the mechanical and thermal conditions in the blast furnace, coke disintegrates along fissures. An attempt was made to ascertain the regularity of location and the density of fissuring in relation to the shrinkage and the character of thermal flow in the coke cake and to devise a method for evaluation of the coke by an index obtained from a mechanical test. The index is coordinated with the factors which control the blast furnace process, and facilitates the possibility of increasing the amount of low grade coal used in the coking industry. A coke index depending on the quantity and the viscosity of the blast furnace slag was developed. The fluctuation of the new index values and the disturbances caused by the fluctuation in the operation of blast furnaces were determined. The effect on coke structure was determined of (1) the coking of coal mixtures under certain conditions in relation to the index; (2) the admixture of certain components of the coal blends.

C.A.

Research Inst, Fuel Minerals, Moscow

USSR,

Quality of coke and means for its improvement and for widening the choice of coking coals. L. M. Saporozhnikov and G. V. Soperanskaya. Tekhn. Tekh. Otkrytiya. Trasp. Svyaz. Klad. Nauk S.S.S.R. 2: 3-31 (1960). - The process of coking was characterized as studying the progressive reduction of cracks during coking with the rise in the temperature and with time. The nature of the cracks, the crushing strength of the coke and its position in the charge of the blast furnace, inside the slag formation zone, above the hearth. The size of the coke above the hearth is sufficiently closely determined by a simple method described in the article. The new method of evaluation of the coke quality was tested over many months at the East and South Russia metallurgical plants and compared with the operation log of the blast furnaces. Parallel results were recorded from the daily logs of nonuniformity of blast furnace operations with the daily index of the coke quality as determined by this method. The fluctuations of the index are frequently observed on consecutive days with parallel difficulties in the blast-furnace operations. Sundgren drops

tests fail to register such variations in the coke quality and remain constant. The method was applied to the widening of the choice of coal for coking, by blending binary and ternary coal mixtures, including a no. of high-gas Kuzbass coals. The results are expressed in triangular diagrams which indicate mixtures with permanent and fluctuating indexes of coke quality. Results of the tests were applied to coking on an industrial scale at specified coking conditions. The results are more sensitive and dependable for blast-furnace control than are drum shatter tests.

W. M. Sternberg

Jhy

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SAPOZHNIKOV, L.M.; SPERANSKAYA, G.V.; CHERNYSHEV, A.B., redaktor; KUDASHEV, A.I., redaktor; GRAKOVA, tekhnicheskii redaktor.

Study of modern principle of coking. Akademiya nauk SSSR. Institut
goriuchikh iskopaemykh. Trudy 4 no.1:5-63 '53. [Microfilm].

(MIRA 8:4)

1. Chlen-korrespondent Akademii nauk SSSR (for Sapozhnikov, Cherny-
shev).

(Coal--Carbonization) (Coke)

SAPOZHNIKOV, L. M.

USSR/Mining-Geochemistry

Card 1/1

Authors : Sapozhnikov, L. M.; and Kasatochkin, V. I.

Title : Geochemistry of Mineral Coals.

Periodical : Vest. AN SSSR, Ed. 2, 21-26, Feb/1954

Abstract : The authors consider the important role of the mineral coals in the light of development of the various branches of industry. They describe, in general terms, the structure, chemical composition and application of the various types of coals, and give the references on the studies and analysis of coals and carbonizers conducted by D. I. Mandeleev, V. I. Yorren, J. Bisco, V. I. Danilov, and A. M. Zubko.

Institution :

Submitted :

USSR.

Effects of organic and inorganic additives on the properties of coals in their plastic state. L. M. Sypozhenkov and I. N. Nikolayev. *Trudy Inst. Goryuch. Iskopaem.* (Had. Nauk S.S.S.R. 3, 62-9 (1964)).—Plastometric studies were made of changes in the properties of coking coals, gas coals, and fat coals when passing through the plastic state. The additives studied were anthracene oil, neutral hydrocarbons (anthracene, phenanthrene, retene), surface-active substances (abietic acid), inact. Fe oxides, and ZnCl₂ and AlCl₃ in soln. W. M. Steinberg.

VODNEV, G.G.; SHELKOV, A.K.; DIDENKO, V.Ye.; FILIPPOV, B.S.; TSAREV, M.N.;
 ZASHVARA, V.G.; LITVINENKO, M.S.; MEDVEDEV, K.P.; MOLODTSOV, I.G.;
 LGALOV, K.I.; RUBIN, P.G.; SAPOZHNIKOV, I.M.; TYUFYUNNIKOV, G.N.;
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 A.A.; TAYCHER, M.M.; TSOGLIN, M.E.; DVORIN, S.S.; RAK, A.I.; OBUKHOV-
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 MIROSHNICHENKO, A.M.; KOPELIOVICH, V.M.; TOPORKOV, V.Ya.; AFONIN, K.B.;
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 M.S.; SHAPIRO, A.I.; KHALABUZAR', G.S.; SEKT, P.Ye.; GARAY, I.I.;
 SMUL'SON, A.S.

Boris Iosifovich Kustov; obituary. Koks i khim. no.2:64 '55.(MLRA 9:3)
 (Kustov, Boris Iosifovich, 1910-1955)

SAPOZHNIKOV, L.M.; YUROVSKIY, A.Z., doktor tekhnicheskikh nauk; LAVROVSKIY, K.P., redakter; TENNIS, I.G., redakter; PAVLOVSKIY, A.A., tekhnicheskii redakter.

[New techniques in coking and concentrating coal] Novaya tekhnika koksovaniia i obegashcheniia uglei. Moskva, Izd-vo Akademii nauk SSSR, 1956. 28 p. (MLRA 9:6)

1.Chlen-korrespondent AN SSSR (for Sapozhnikov, Lavrovskiy).
(Coke industry) (Coal preparation)

SAPozhNIKOV, L.M.

✓ Sapozhnikov, L. M., and Yurovskii, A. Z.: Novaya
tehnika koksiraniya i obogashcheniya ugla (New Tech-
niques in Coking and in Enriching Coal). Moscow: Iz-
datel. Akad. Nauk S.S.S.R. 1950. 31 pp. k 45.

Full 2

AGROSKIN, Anatoliy Abramovich; GRIGOR'YEV, Stepan Makarovich; PETRENKO,
Ivan Gavrilovich; PITIN, Rafail Nikolayevich; SAPOZHNIKOV, I.M.,
otvetstvennyy redaktor; KLIMOV, V.A., redaktor izdatel'stva;
PAVLOVSKIY, A.A., tekhnicheskii redaktor

[Bulk weight of coal used in coking] Nasypnoi ves uglei dlia
koksovaniia. Moskva, Izd-vo Akademii nauk SSSR, 1956. 175 p.
(MIRA 9:8)

1. Chlen-korrespondent AN SSSR (for Sapozhnikov)
(Coke industry) (Coal)

SAPOZHNIKOV, L.M.

Obtaining metallurgical fuel from gas coals and coals having
a slight clinkering tendency. Trudy Lab.geol.ugl. no.6:137-
138 '56. (MLRA 10:2)

1. Institut goryuchikh iskopayemykh Akademii nauk SSSR.
(Coal) (Coke)

BARDIN, I.; BELAN, R.; BEKHTIN, N.; BOYKO, V.; BORISOV, A.; BYCHKOV, V.;
VASILENKO, S.; VINOGRADOV, V.; VISHNEVSKIY, A.; VODNEV, G.; DVORIN,
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ROZHKOV, A.; SAPOZHNIKOV, L.; SEDOV, P.; SOKOLOV, P.; TEVOSYAN, I.;
TIKHONOV, N.; TISHCHENKO, S.; FILIPPOV, B.; FOMENKO, N.; SHELKOV,
A.; SHEREMET'YEV, A.

Fedor Aleksandrovich Merkulov. Koks i khim.no.7:62 '56. (MLRA 9:12)
(Merkulov, Fedor Aleksandrovich, 1900-1956)

SAPOZHNIKOV, L. M.

18(0) PHASE I BOOK EXPLORATION 509/1728

Al'medevskiy msk SSSR. Institut metallurgii
Sovetskaya Problemy metallurgii (Modern Problems in Metallurgy)
Moscow, Izd-vo AN SSSR, 1958. 640 p. 3,000 copies printed.
Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of
Sciences; Eds. of Publishing House: V.S. Kabanovskiy, and
A.M. Baranovskiy. Tech. Ed.: V.V. Polyakov.

REMARKS: This book is intended for scientific and technical per-
sonnel in the field of metallurgy.

CONTENTS: This is a collection of articles on certain aspects of
Soviet metallurgy. The book is dedicated to Academician
Ivan Pavlovskiy on the occasion of his 75th birthday. The
book is divided into two parts. The first part consists of
articles describing a brief account of the biography and
scientific activity of the Soviet metallurgist. It includes an
article by John Chipman, Nicholas Grant, and John Elliott (M.I.T.,
USA) describing their meeting with Pavlovskiy in Moscow and also his
visit to the United States. The second part consists of three
articles and deals with raw materials and fuels for the Soviet
metallurgical industry. The third part represents the major
portion of the book. It consists of 25 articles dealing with
the various aspects of the metallurgy of pig iron and steel.
The fourth part consists of two articles treating the metallur-
gy of nonferrous metals. The fifth part consists of three
articles on the forming of metals. The sixth part consists of
eight articles discussing certain aspects of physical metallur-
gy. The last part deals with general problems in the field
of metallurgy. References are given after each article. No
permissions are mentioned.

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SOURCES OF RAW MATERIALS AND FUELS FOR THE
USSR METALLURGICAL INDUSTRY

- Antropov, P.N. [Minister for Geology and Conservation of Mineral
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- Medvedev, O.S. [Professor, Doctor of Technical Sciences,
S.S. Shapire, and O.S. Medvedev (Candidates of Technical
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- Samarin, A.M. [Corresponding Member, AN SSSR, Institute
of Metallurgy, Msk]. Principles of Continuous Casting 53

Card 3/18

3

Sapozhnikov, L. M.

5(1)

PHASE I BOOK EXPLOITATION

SOV/2127

Koksokhimicheskoye proizvodstvo; sbornik statey (By-Product Coking Industry. Collection of Articles) Moscow, Metallurgizdat, 1959. 240 p. 2,500 copies printed.

Ed.: B. S. Filippov; Ed. of Publishing House: A. A. Revyakin; Tech. Ed.: P. G. Islent'yeva

PURPOSE: The book is intended for engineers and technicians in the by-product coking industry and in scientific research institutes. The book may also be used by students in secondary and higher technical schools.

COVERAGE: The articles in this collection on the by-product coking industry appeared originally either in the periodical Koks i khimiya (Coke and Chemistry) or in other publications during 1955-1958. The book discusses the development of raw-material reserves for coking, technology of the manufacture of coke, quality of coke and further enlargement of the number of chemical coking products obtained. Some articles are devoted to a new procedure for preparing and beneficiating coals, new methods for coking, and to the mechanization and automation of industrial processes. References accompany individual articles.

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By-Product Coking Industry (Cont.)

SOV/2127

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Miroshnichenko, A. M., and B. I. Shtromberg. [UKhIN]. Coal Base for the Coking Industry in the South 29

Panchenko, S. I. [VUKhIN] Raw Material Base for the Coking Industry in the East and North 38

Sapozhnikov, L. M. [Corresponding Member of the Academy of Sciences, USSR]. Coke from Gas Coal and from Weakly-Caking Coals 45

Gryaznev, N. S., I. M. Lazovskiy, and M. G. Fel'dbrin. [VUKhIN] The Basic Principle for Preparation of Coals for Coking by Crushing

Toporkov, V. Ya. [Candidate of Technical Sciences, UKhIN]. Beneficiation of Coking Coals in Heavy Media 76

Card 2/4

SOV/68-59-3-5/23

AUTHOR: Sapozhnikov, L.M., (Corresponding Member of the Academy of Science, USSR)

TITLE: Formed Blast Furnace Fuel from Non-Coking Coals
(Formovannoye domennoye toplivo iz nekoksuyushchikhsya ugley)

PERIODICAL: Koks i Khimiya, 1959, Nr 3, pp 22-27 (USSR)

ABSTRACT: The principle of a continuous method of production of formed blast furnace coke from non-coking lean and gas coals is described. The method is based on the following two principles: 1) dense and strong metallurgical coke is formed on the appearance between structural elements of plastic coal of a sufficient number of chemical bonds, the latter depends on the uniformity of the plastic coal mass which is determined by the degree of its gas impermeability; 2) by varying the duration of the impermeable state of plastic coal one can influence the nature of structural bonds in the forming semicoke. The technological scheme of continuous coking embodying the above two principles consists of 5 subsequent stages. In the first stage normally crushed coal (90% - 3 mm) is rapidly (a few seconds) heated to the temperature of its

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transition into the plastic state. Heating is done in a suspended state using a gaseous heat transfer medium. The heated coal is separated from the heat transfer medium and is transferred into another apparatus before it begins to decompose. Therefore, no loss of volatile products in the first stage takes place. In the second stage the preheated coal is maintained at the same temperature for 0.5 - 2 minutes. Thermal decomposition of coal takes place and the volatile products evolved are sucked off for subsequent processing. Coal grains soften and their sharp edges become rounded. In the third stage of the process a small pressure (2 - 5 kg/cm²) is put on to the layer of coal and softened coal grains fuse into a continuous plastic mass which can be formed into round shapes (60-70 mm in size). The fourth and fifth stages are usually done together in a continuous vertical furnace. In the fourth stage (top part of the furnace) the formed briquettes cake evolving tar and heavy hydrocarbon gases. Briquettes harden and are transformed into

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